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TOWARDS VERTICAL VELOCITY AND HYDROMETEOR CLASSIFICATION FROM ARM WIND PROFILERS

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ABSTRACT

With support from the ARM Climate Research Facility infrastructure, two radar wind profilers (915-MHz) were operated for a year-long campaign (2009) in the southwest part of the Southern Great Plains site. The goal of this field campaign was to re-evaluate wind profiler opportunities for studying deep convective clouds as part of larger ARM efforts towards the estimation of vertical velocity and precipitation microphysics. During this period, ARM wind profilers operated under a new sampling strategy designed to better capture deep convective cores (to 15 km) at high temporal resolution (five- second profiles). Algorithms to estimate the vertical air velocity and precipitation type are offered and capitalize on a diverse collection of over 25 events observed for the deployment.